

REMARKS

Re-examination and allowance of the present application is respectfully requested.

Applicants respectfully traverse the Examiner's 35 U.S.C. § 103(a) rejection of claims 1 and 9 as being obvious over U.S. Patent 6,002,215 to YAMASHITA et al. in view of U.S. Patent 6,833,708 to FURUKAWA, U.S. Patent 6,246,248 to YAMAGISHI and Japanese document JP 3-307173 B2.

According to a feature of the present invention, an electrical lead detecting apparatus is provided that detects an electrical leakage of a power supply. According to a disclosed embodiment, the electrical leak detecting apparatus employs a configuration that includes two voltage division elements R1 and R2, detection resistance element Rs, and capacitor C0 that insulates (isolates) the electrical leak detecting apparatus from ground (see Fig. 1 and page 8, line 10 to page 9, line 18). Applicants submit that at least this configuration is lacking from the prior art combination set forth by the Examiner.

In YAMASHITA et al., resistors 12 and 12' function to detect an output voltage of a DC power supply 6, while resistor 13 detects an output current of the DC power supply 6 (see, for example, col. 4, lines 20-32). No isolation capacitor is provided. Applicants submit that this corresponds to a common switching power supply configuration, and differs from Applicants' invention, as discussed above.

Applicants submit that FURUKAWA discloses the detection of an electrical leak by employing resistors R1A, R1B, R2A, R2B, R3, R4 and R5 (see, for example, col. 4, line 36 to col. 5, line 20). This configuration differs from Applicants' invention, in which, for example, the electrical leak detecting apparatus includes a capacitor.

YAMAGISHI discloses resistor 3 that detects an input current of a device under test, and capacitor 7 that stabilizes a voltage applied to the device under test (see, for example, col. 1, lines 31-49). Applicants submit that this configuration differs from the present invention, in which detection resistance element R_s is provided to detect a leakage current, while capacitor C_0 is provided to enable detection of an electrical leak of a line in which a secondary voltage becomes higher than ground by isolating the electrical leak detecting apparatus from ground.

Japanese document 3-307173 discloses an earth leakage detection device that employs resistors R_1 , R_2 and earth image detection resistor R_s (see, for example, Fig. 1 and Abstract). Applicants submit that this configuration differs from Applicants' invention, in which, for example, capacitor C_0 is provided to insulate the electrical leak detecting apparatus from ground in terms of DC.

Applicants submit that even if one attempted to combine the teachings of the applied references in the manner suggested by the Examiner, one would fail to arrive at the present invention, as defined by the claims, as such a combination would fail to include, at least, a capacitor that is inserted between a detection resistance element and ground to insulate the electrical leak detecting apparatus from ground, such that an electrical leak of a line having a voltage higher than ground is detected. Accordingly, Applicants submit that the present invention is not obvious in view of the applied art of record.

By the current amendment, Applicants amend claim 1 to clarify the invention, as discussed above. In this regard, it is noted that none of the references disclose the circuit configuration of the present invention, and that only FURUKAWA and the Japanese

document are directed to a leak detection circuit. In addition, Applicants submit that the capacitor 7 of YAMAGISHI is provided as a smoothing capacitor in contrast to the capacitor C0 of the present invention, that functions to insulate the electrical leak detecting apparatus from ground in terms of DC.

In view of the above, Applicants submit that the presently claimed invention is not obvious in view of the applied art of record. Accordingly, the Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection, and to pass the application to issue.

SUMMARY AND CONCLUSION

In view of the fact that none of the art of record, whether considered alone or in combination, discloses or suggests the present invention as now defined by the pending claims, and in further view of the above amendments and remarks, reconsideration of the Examiner's action and allowance of the present application are respectfully requested and are believed to be appropriate.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attaché thereto.

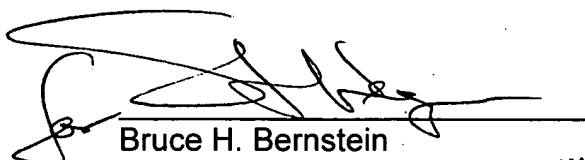
Should the Commissioner determine that an extension of time is required in order to render this response timely and/or complete, a formal request for an extension of time, under 37 C.F.R. § 1.136(a), is herewith made in an amount equal to the time period required to render this response timely and/or complete. The Commissioner is authorized

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to charge any required extension of time fee under 37 C.F.R. § 1.117 to Deposit Account No. 19-0089.

If there should be any questions concerning this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,
Hirota HIGASHIHAMA et al.

A handwritten signature in black ink, appearing to be "Bruce H. Bernstein", written over a horizontal line.

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